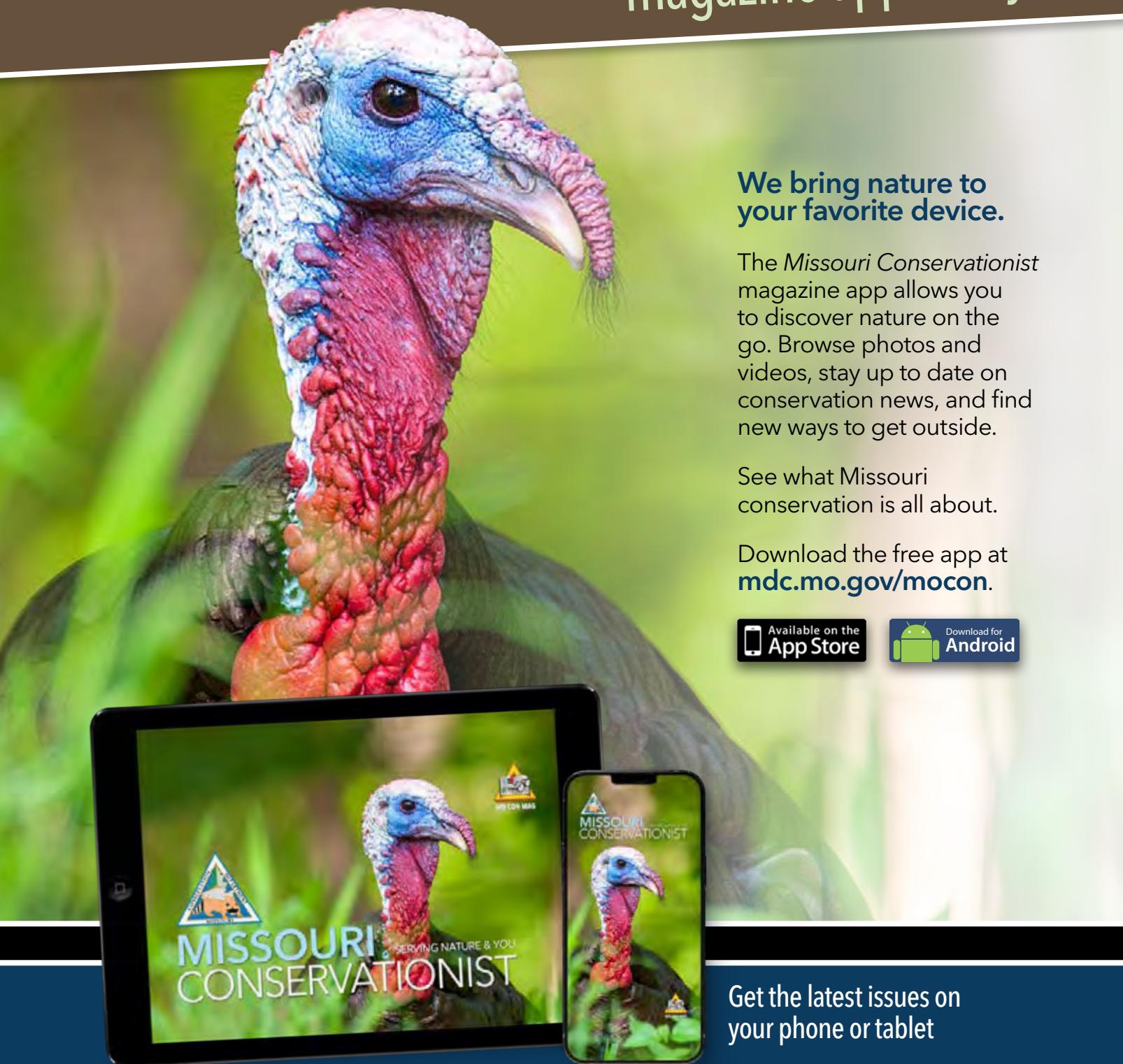


MISSOURI CONSERVATIONIST

VOLUME 84, ISSUE 7, JULY 2023
SERVING NATURE & YOU



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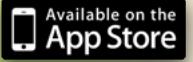


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Smooth
chanterelle

MISSOURI
CONSERVATIONIST



ON THE COVER

A coyote stands in a marsh scanning its surrounding.

© DANNY BROWN

700mm lens, f/5.6
1/320 sec, ISO 400

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DECEPTIVE PICTURE
When I looked at the bullfrogs on the June cover, I thought, now isn't that sweet? Two bullfrogs hugging! Then I looked at the description only to find out they are clashing. I guess it all depends on how we choose to view nature, huh?

Janet Fiedler
via email



HAPPY GRANDKIDS

My grandson, Carter, was so excited when he collected the mail and discovered the *Conservationist* had arrived. With all the enthusiasm of a 5-year-old, he said, "I love this magazine! Can I cut pictures out when you're done with it?"

Marge Kaden Coatsville

I love the *Missouri Conservationist*. I have five grandchildren who I write to every week. I can always find pictures from the magazine to send them and write to them about nature. My 13-year-old grandson will love the picture of the bullfrogs on the front of the June magazine.

Karen Keune Town & Country

TURTLES CROSSING

Our family enjoys reading the *Missouri Conservationist* and *Xplor* magazines. We love all the articles on the different animals and regions of Missouri.

Several months ago, you did an article on turtles and when they cross our Missouri roads. Ever since then, we have put on our calendars when the turtles will be out crossing the roads.

Thank you for your recent article *Give the Turtles a Brake* (June, Page 9). When we are driving, we are always looking out for small animals or turtles. If we do come across a turtle crossing, we stop and I get out with a glove and move the turtle in the direction they are headed.

Jerry and Stephanie Dandridge Pevely

MISSOURI'S LEAST WANTED

Thank you for the timely item in the June issue about poison hemlock [*Missouri's Least Wanted*, Page 8]. I have a difficult corner spot that gets only morning sun and have experimented with various ferns to fill it. None have survived until I found this lovely "fern" on the roadside. I transplanted a tiny sprig last fall and have been so pleased at how it has thrived. After reading your article, I know it is poison hemlock! It has those unmistakable purple spots on the stem, which is already 1 inch in diameter. Your article has saved me possibly a big landscape (and maybe health) problem.

Jeanette Ziegler St. Louis

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Have a Question for a Commissioner?

Send a note using our online contact form at mdc.mo.gov/commissioners.

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The Missouri Department of Conservation protects and manages the fish, forest, and wildlife of the state. We facilitate and provide opportunity for all citizens to use, enjoy, and learn about these resources.



Want to see your photos in the Missouri Conservationist?

Share your photos on Flickr at flickr.com/groups/mdcreaderphotos-2023 or email Readerphoto@mdc.mo.gov.



1

1 | Green sunfish
by **David Bice**,
via email

2 | Fishing
buddies by
Carrie Reid,
via website
submission

3 | Leaping
coyote by
Donna Matthes,
via Flickr



2



3



Want another chance to see your photos in the magazine?

→ In the December issue, we plan to feature even more great reader photos. Use the submission methods above to send us your best year-round pictures of native Missouri wildlife, flora, natural scenery, and friends and family engaged in outdoor activities. Please include where the photo was taken and what it depicts.

TAYLOR LYNN PHOTOGRAPHY



Up Front

with **Sara Parker Pauley**

❶ **On mornings I know I'm headed to the field, it's interesting** to me how my feet hit the floor long before the alarm says it's time. I believe that's because such days hold great promise of outdoor adventure and an opportunity to see MDC professionals in action.

Twice in recent days this came true as I spent two fabulous days afield — one on Lead Mine Conservation Area and the other on Spring Creek Gap Conservation Area, with MDC natural history biologists (NHBs) and other remarkable team members. I feel like a game show host when afield with our NHBs. I'll point to a wildflower, tree, or songbird and say, "Name that species!" They shout out the common or Latin name, and before I can ask, "Is that your final answer," we're off to the next one. There are no weakest links with these talented professionals, and they inspire me to dust off my collection of Missouri natural history books as it's never too late to learn.

And the research is overwhelming on the benefits of lifelong learning — that when we feed the human drive for curiosity and personal growth, it improves our motivation, self-confidence, and so much more. A perfect opportunity to learn more about Missouri's flora and fauna is through the Missouri Master Naturalist Program (learn more on Page 22). This program, a partnership between MDC and University of Missouri Extension, combines the benefits of individual learning with the gains of making a positive difference in Missouri communities.

So, when it comes to improving oneself and the world around us, I'll take Master Naturalists for \$1,000, Alex.

Sara Parker Pauley

SARA PARKER PAULEY, DIRECTOR
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Nature LAB

by Dianne Van Dien

Each month, we highlight research MDC uses to improve fish, forest, and wildlife management.

SPECIES OF CONSERVATION CONCERN

Seeking Rare Butterflies

Twelve butterfly species are listed as species of conservation concern in Missouri, but MDC Natural History Biologist Steve Buback thinks that number would be higher if we knew more about more species.

"Very few people are studying these insects," says Buback. "We've been pushing it for the last eight years, but our overall sense of most of these butterfly populations is still pretty poor, just because we have very limited eyes on the ground."

Gaps in knowledge about insects are not uncommon. The sheer number of insects — about 25,000 species just in Missouri — means biologists must choose which ones to study. And when it comes to butterflies, Missouri has never had a professional lepidopterist (butterfly and moth specialist) to focus on that group. Most studies have been done by interested amateurs.

MDC currently tracks about 30 of Missouri's 1,400-plus species of moths and butterflies. For species like the regal fritillary, where much is known about its life history and locations in the state, surveys are systematic and provide specific data.



Surveys show that Runge Conservation Nature Center has the largest known population in the world of swamp metalmarks, a species of conservation concern.

MDC butterfly surveys seek to fill knowledge gaps for rare and understudied species

But, Buback says, "Many butterfly species are so poorly known that most of our effort is spent just trying to find new populations. For example, the Ozark woodland swallowtail hasn't been seen in Missouri since 2006. So, when we survey for that species, we're just trying to find it."

To find new populations, staff survey habitats that historically were known to support a species. But finding butterflies isn't only the work of scientists.

"The study of insects in Missouri has always been driven by nonprofessionals," says Buback. "Anyone can make valuable additions to science. With more people involved, we can really start to understand where these species are and how they are doing."

Rare Butterfly Surveys at a Glance

Routine surveys are carried out for rare butterflies with known population sites. For species where information is lacking, often the goal is simply to find locations that support them.



Several populations of regal fritillaries are known in Missouri, allowing this species to be better studied than many of our other rare butterflies.

How to Get Involved

Attend butterfly events at MDC nature centers and Missouri State Parks.

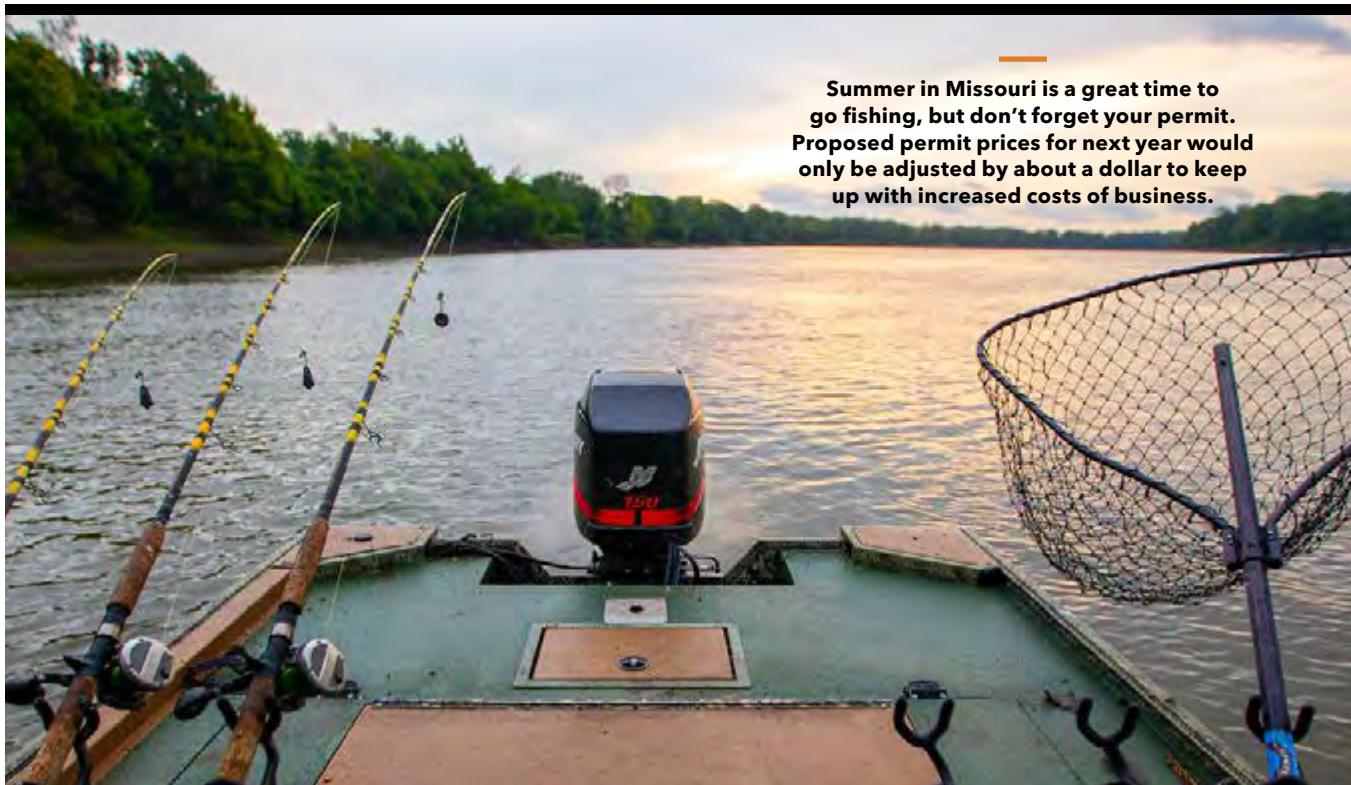
Participate in surveys and learn about butterflies through these organizations:

- Idalia Society (Kansas City area) Idaliasociety.org
- Missouri Butterfly Monitoring Network short.mdc.mo.gov/4AB
- North American Butterfly Association (NABA)* short.mdc.mo.gov/4A6
- Xerces Society short.mdc.mo.gov/4A2

*NABA counts are conducted annually in the Kansas City, St. Louis, and Kirksville areas.

In Brief

News and updates from MDC



Summer in Missouri is a great time to go fishing, but don't forget your permit. Proposed permit prices for next year would only be adjusted by about a dollar to keep up with increased costs of business.

PERMIT PRICES

MDC SEEKS FEEDBACK FROM ANGLERS, HUNTERS, TRAPPERS

→ Missouri is home to more than 1 million anglers, 500,000 hunters, and several thousand trappers. MDC issues nearly 2.6 million hunting, fishing, and trapping permits each year. Most permit prices have remained the same for the past 20 years while costs for goods and services have increased significantly since then.

MDC is proposing price adjustments for most hunting, fishing, trapping, and commercial permits to keep up with rising costs of goods and services used to manage more than 1,000 conservation areas along with nature centers, shooting ranges, fish hatcheries, and other facilities. Most resident hunting and fishing permit prices would be adjusted by about a dollar.

MDC received initial approval on the proposed permit price adjustments from the Missouri Conservation Commission at its May 19 open meeting.

Additional revenue from permit sales will help MDC maintain and improve its nationally recognized programs and services for hunters, anglers, wildlife watchers, and others. Conservation efforts supported by revenue from permit sales include:

- Maintaining and improving nine fish hatcheries around the state that raise and stock more than 7 million fish annually for public fishing, including about 1.3 million trout at five hatcheries.
- Maintaining and improving more than 70 public shooting ranges around the state.
- Continuing habitat work on nearly 1,000 conservation areas, including 15 intensively managed wetlands for public hunting and wildlife watching.
- Expanding popular youth offerings such as the Missouri National Archery in the Schools Program, which has reached more than 200,000 young archers at nearly 700 Missouri schools, and the Discover Nature Schools Program, which helps more than 87,000 Missouri students each year at more than 700 schools around the state learn about and connect with Missouri outdoors.
- Researching the health and sustainability of deer, turkey, quail, waterfowl, songbirds, fish, bears, elk, and other species.
- Helping more than 24,000 landowners create and maintain habitat for wildlife.

continued on Page 6 »

PERMIT PRICES

(continued from Page 5)

- Evaluating the effectiveness of harvest regulations for fish and wildlife game species and understanding resource-user preferences.
- Restoring, monitoring, and protecting imperiled and endangered species and habitats.
- Reducing and removing invasive species that threaten the health of native species and habitats.
- Maintaining and improving 15 nature and interpretative centers around the state.

Proposed resident and nonresident permit price increases include:

- The price of a Resident Fishing Permit would go from \$12 to \$13.
- The price of a Nonresident Fishing Permit would go from \$49 to \$51.
- The price of a Resident Small Game Hunting Permit would go from \$10 to \$10.50.
- The price of a Nonresident Small Game Hunting Permit would go from \$94 to \$98.
- The price of a Resident Spring Turkey Permit would go from \$17 to \$18.
- The price of a Nonresident Spring Turkey Permit would go from \$224 to \$233.50.
- The price of a Resident Firearm Deer Permit would go from \$17 to \$18.
- The price of a Nonresident Firearm Deer Permit would go from \$265 to \$276.50.
- The price of a Resident Antlerless Deer Permit would go from \$7 to \$7.50.
- The price of a Nonresident Antlerless Deer Permit would go from \$25 to \$26.
- All youth permits will remain half of adult resident price.
- Those under 16 and residents over 65 years of age remain exempt from the small game hunting and general fishing permit requirements.

MDC is seeking public comments about the proposed permit price adjustments from July 4 through Aug. 2. To comment and for more information — including a complete list of permits, current and proposed prices, average prices of similar permits for surrounding states, the last year the permit prices were raised, and other information — visit short.mdc.mo.gov/4d5.

MDC will compile comments received and share them with the commission prior to their Sept. 8 open meeting when it will give final consideration to the proposed permit price adjustments. If approved, the changes would become effective Feb. 29, 2024.

Ask MDC

Got a Question for Ask MDC?

Send it to AskMDC@mdc.mo.gov or call 573-522-4115, ext. 3848.

Q: What type of frog is this?

► This is a pickerel frog. They can be common around homes in dry, summer months. This amphibian is attracted to water features. Pickerel frogs spend most of their lives on land and go to water to breed in late winter or early spring. However, they seek out plants and gardens, watered by people, in the summer. They overwinter beneath the ground in karst areas throughout much of the state, especially in caves with running streams.

Pickerel frogs typically have paired squarish markings on their backs with broad dorsolateral folds. These paired markings are usually more prominent on the frogs' lower ends. The paired markings on this frog — along with a brightly colored groin area — are typical for this species. For more information, visit short.mdc.mo.gov/4dE.

Q: I associate dragonflies with water. Last year, we experienced a massive drought in southeast Missouri. So why did I have thousands of dragonflies?

► While dragonflies do need water for the first portion of their lives in the egg and larval stage, when they emerge as adults, they can go wherever the food takes them. As



Pickerel frog

insectivores, many dragonfly species will loiter near the insect-rich wetlands from which they emerged; however, venturing 3 miles away to forage isn't unheard of.

Dragonflies' foraging strategies add another nuance, explaining why some species may be found closer or further away from water. Some species are perchers and wait for prey to fly by while others are fliers and zip around looking for prey. Those species falling within the fliers' group are the ones most often seen patrolling upland areas looking for a meal. To add another wrinkle, some migratory species travel hundreds of miles during the adult stage.

In the Sikeston area, July is the time of year when gliders emerge from rice paddies and other fishless, lowland



Imperial moths

ponds. Where mating occurs is hard to know — presumably away from water and on the wing — but they've been observed attempting to oviposit or lay eggs on anything remotely reflective, including cars in a parking lot.

Newly emerged adults typically fly away for a week or more to mature before returning to the water. To learn more about dragonflies, visit short.mdc.mo.gov/4db.

Q: I found tiny mussel shells in a house pod vacated by purple martins. Were they fed to the hatchlings?

➔ Yes. A purple martin's insectivorous diet offers adequate protein but skimps on calcium. Hence, the birds eat mussels as grit and calcium, regurgitate them, and feed them to their offspring. Observers have noted seeing clam shells, fish bones, snail shells — and, yes, mussel shells — in the birds' nesting cavities. For more information, visit short.mdc.mo.gov/4da.

Q: My friend found this in her garden. Is it a moth? A chrysalis? It's quite large!

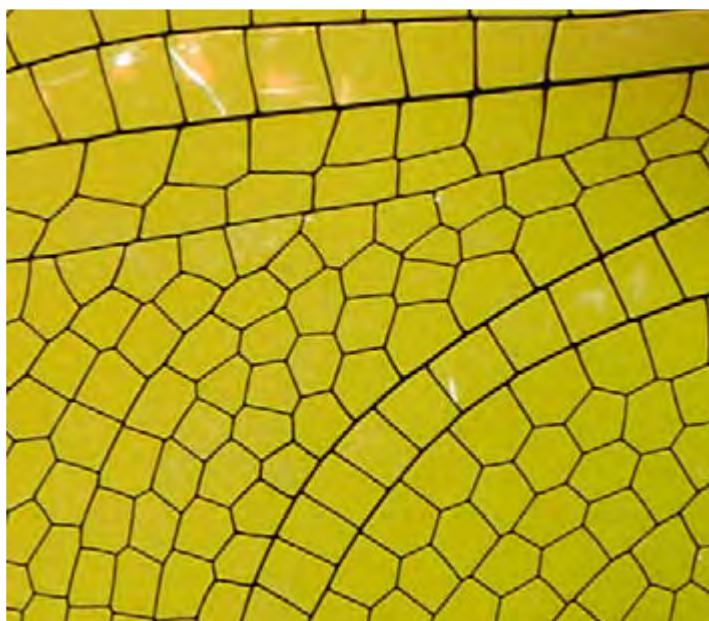
➔ These are imperial moths (*Eacles imperialis*). They are mating. It looks like the male found the female before she was fully "closed" — or emerged from the pupal case — as her wings have yet to be inflated. In Missouri, these moths feed on maples, sycamores, and sassafras. Females have less brown on their wings, are larger, and can be 5.5 inches.

For more information, visit short.mdc.mo.gov/4dL.

What IS it?

Can you guess this month's natural wonder?

The answer is on Page 9.



John Lowe

WASHINGTON COUNTY
CONSERVATION AGENT

offers this month's

AGENT ADVICE

The dog days of summer are here. To beat the heat, folks flock to nearby waterways to boat and fish. Before you go, be aware of area regulations and proper safety precautions. Possession and length limits can change within the same stretch of a waterway, so be familiar with where you're angling. Also, be sure to have proper fishing permits. If you are boating, all passengers should have life jackets available and those 7 and younger should wear them at all times. Finally, if you are packing drinks and snacks, be sure there are no glass containers on the water and all trash is carried out at the end of the day. For more information, visit *A Summary of Missouri Fishing Regulations* at short.mdc.mo.gov/4gy.

WE ARE CONSERVATION

Spotlight on people and partners
by Emily Franklin

From left: Jim Arnold, Bev Arnold, Michael Wreath (back row), Ken Schoenholz, Mary Schoenholz, Beka Davis, Leslie Limbaugh, Angie Weber (consultant), and Mary Meinhardt.



Wild Ones

Wild Ones is a nonprofit, environmental, education, and advocacy corporation with over 108 chapters across 32 states, four of which are in Missouri. Through the work of their volunteers, the St. Charles chapter's mission is to promote benefits of biodiversity and landscaping with native plants. Embracing their mission, Wild Ones is giving visitors of the August A. Busch Memorial Conservation Area (CA) an opportunity to learn more about native plants and their benefits.

Growing possibilities

Since 2020, Wild Ones volunteers have spent over 400 hours weeding invasives, creating new paths, and planting over 150 native species in the gardens at the Busch CA. The chapter plans to incorporate technology by using the iNaturalist application and QR codes in addition to using plant tags.

In one volunteer's words
"Our dream is to have an area where visitors can see the beauty and benefits of native plants," said Mary Meinhardt.

by Dan Zarlenga

What's **your** conservation superpower?

NEW ONLINE APPLICATION FOR SPECIAL USE PERMITS

MDC offers more than 1,000 conservation and natural areas around the state for people to get outdoors and discover nature through a variety of activities such as hiking, biking, birding and wildlife watching, horseback riding, photography and videography, hunting, fishing, and more.

Some activities on these areas require a special use permit, and we have made it easier to get one through our new online application at short.mdc.mo.gov/4di.

A special use permit is required for certain activities on conservation areas, including:

- Groups of more than 10 people camping, horseback riding, bicycling, and using shooting ranges.
- Furbearer trapping.
- ADA vehicle use for people with mobility disabilities using motorized vehicles where public vehicles are not allowed on conservation areas.
- Athletic competitions of human strength or skill such as races and other competitive events.
- Geocache and letterbox placement.
- Photography and videography only if it involves access during closed hours or to portions of areas closed to public use, use of drone, use of a prop, set, or equipment larger than a single person can carry, or the total daily number of people participating with a photographer or videographer for the primary purpose of photography and videography is more than 10.
- Drone use.
- Commercial uses.
- Ceremonies such as weddings, baptisms, ceremonies of life, etc.
- Other group or special activities at the discretion of the area manager.

Once the no-cost online permit application is completed through the simple, user-friendly webpage, it will be sent to the appropriate MDC staff for the listed conservation area. With MDC's new special use permit application process, both staff and permit applicants will have complete permit information through a digital permit file to keep, print, or have on mobile devices. It also allows the applicant to follow-up on the approval process.

Application for a special use permit should be submitted at least 30 days prior to the event or activity. Applications submitted later will be considered on a case-by-case basis and are not guaranteed to be processed by the requested date. Not all requests for special use permits will be granted. Permits may be denied to avoid user conflicts, resource damages, safety concerns, or other reasonable justification at MDC's discretion.

PHOTOGRAPHY/VIDEOGRAPHY PERMIT CHANGES

MDC no longer requires commercial permits and the associated fees for photography and videography on MDC areas. A special use permit and an associated fee may still be required for photography and videography on MDC areas in situations that involve more than 25 people or that have the potential to harm resources or create conflict with other area users. A special use permit is also required for access to MDC areas during closed hours or to portions of the area closed to public use; with use of an unmanned aerial system (UAS) or drone; with use of props, sets, or equipment that are more than a single person can carry; or when more than 10 people will be participating in the activity over the course of the day.

APPLY ONLINE FOR MANAGED DEER HUNTS

Deer hunters can apply online during July for a shot at more than 100 managed deer hunts throughout the state for archery, muzzleloading, and modern firearms from mid-September through mid-January at conservation areas, state and other parks, national wildlife refuges, and other public areas. Some managed hunts are held specifically for youth or for people with disabilities. Hunters are selected by a weighted random drawing. Draw results will be available Aug. 15 through Jan. 15. Applicants who are drawn will receive area maps and other hunt information by mail.

Get more information on managed deer hunts, preview hunt details, and apply starting July 1 at mdc.mo.gov/managedhunt.

Details about managed hunts can also be found in our *2023 Fall Deer & Turkey Hunting Regulations and Information* booklet available starting in early July at MDC offices and nature centers, from permit vendors around the state, and online at short.mdc.mo.gov/Zjw.



WHAT IS IT?

WIDOW SKIMMER

There are eight families of dragonflies in North America, distinguished by their detailed wing vein patterns and colors. All dragonflies have slender, elongated abdomens and two pairs of horizontal wings. The widow skimmer has distinctive dark wing markings that seem like mourning garb. Females and young males usually have brownish wingtips, and the abdomen has a brown stripe down the center flanked by two yellow stripes.

Fishing in the Dark

TIPS FOR A SUCCESSFUL NIGHTTIME FISHING TRIP

by Andrew Branson | photographs by Noppadol Paothong





Lanterns and lighted bobbers are useful for fishing at night.

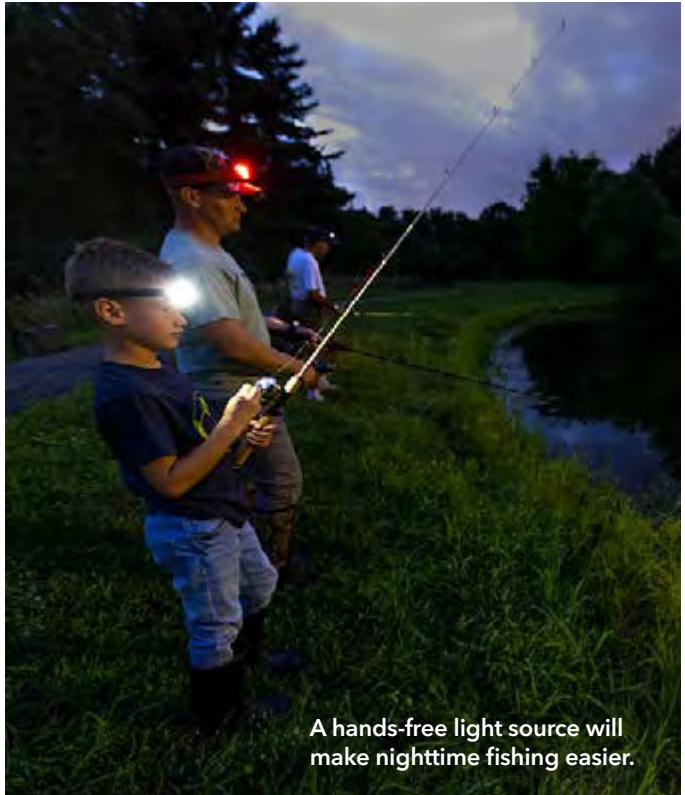
Have you ever wondered if fishing in a pond at night is better than fishing during the day? Many people claim to have better luck catching catfish at night. But why is that? Is it because people spend less time fishing during the heat of the day than they would during the cool of the evening? Or is it because fish are also less active during the heat of the day, striking more readily in the evening?

Fishing a pond at night is not much different than fishing during the day. We know that catfish feed mainly by sense of smell and do not need the light of day to find an angler's bait, but fish that feed mainly by sight will also strike in the evening.

If you want to fish a pond at night, but don't know where to start, this information should help get you started.

Light the Way

Make sure you can see what you are doing. Bringing lights along with you will be one of the biggest differences you'll have compared to fishing during the day. A hands-free light source, like a lantern or headlamp, will allow you to see your way to your fishing spot, and will not interfere with your fishing gear while you're fishing. An added benefit to lights is that they can also attract nighttime insects, like crickets, which can be collected and used for fishing.



A hands-free light source will make nighttime fishing easier.

Fishing with Bait

When fishing with worms, crickets, or other scented bait, you'll need to be able to watch your bobber or rod tip to know when you have a bite. Your lantern or headlamp will help, but there are other items designed to help with nighttime fishing.

A float or bobber is commonly used when fishing with bait. The action of the bobber signals when fish are nibbling. But how can you use a bobber at night? You could continuously hold your flashlight beam on it while waiting for the fish, or you could use a lighted bobber. These ingenious bobbers contain small batteries and bright lights that can easily be seen in the dark. Simply attach the bobber to your line, turn on the light, and cast it out. The lit bobber floats and allows you to easily see its movement when a fish comes.

What if you don't need to use a bobber? Fishing bells are made to clamp on the tip of your fishing rod and jingle when a fish is pulling on your line. The sound of the bells will be heard in the darkness and lets you know it's time to grab your pole. Fishing bells are particularly useful when fishing for catfish.

Fishing with Lures

When fishing with lures at night, it's best to choose lures that produce a lot of movement and noise. This will help sight-feeding fish, like bass, spot the lure. Chattering lures and spinnerbaits create sound and vibration in the water that fish can detect. Surface lures — like buzzbaits, jitterbugs, and poppers — are also a good choice because they create a splash or surface movement that the fish can zero in on.



Top: Lighted bobbers are attached and used just like regular bobbers.

Middle: The use of fishing bells can help alert you to even the most subtle of bites.

Bottom: Buzzbaits, jitterbugs, and popper lures create sound and vibration that fish can detect.



Lighted bobbers contain small batteries and bright lights.



Good lights and lighted bobbers can help make fishing at night safe and successful.

Safety

As with any outing, it is always a good rule of thumb to let people know where you plan to be in case you need to be reached. Also, be aware of the weather and possible changing weather conditions and pack accordingly.

Fishing a pond at night can be a wonderful experience. Besides beating the heat and the shine of the blazing sun, you'll also get to enjoy nighttime sights and sounds. Imagine fishing to the sounds of nearby frogs and crickets and the distant hoot of an owl, while the occasional bat flies by. With a little planning and preparation, you can be successful and have a great time night fishing at a nearby pond. ▲

Andrew Branson, a Fisheries Program angler outreach specialist, has worked at MDC since 2005. He spends his free time fishing, sometimes in the dark.





Watchable Wildlife at Water's Edge

IF YOU'RE LOOKING FOR A PLACE TO WATCH AND PHOTOGRAPH WILDLIFE, HEAD TO THE WATER

story and photographs by Danny Brown

I often find myself near water when photographing wildlife. It might be a spring branch flowing through a frozen landscape in mid-January or a pond in the warmest week of summer. Regardless of the time of year, my favorite place to photograph critters is at water's edge. Although some mammals, such as otters and muskrats, are dependent on aquatic habitat, a few others, including raccoons, coyotes, and whitetails, spend a fair amount of time near water as well. They seek water not only to drink but also in search of food and respite from the heat.

Most Missouri mammals are nocturnal, but they are often active at dawn and dusk when the soft light is perfect for photography. I start my day early so I can settle into my photography hide long before the morning light reveals my movements. Typically, I sit in a turkey hunting chair, basically a camouflaged beach chair, with my camera and 500mm lens mounted on a tripod that is splayed over my lap. I use natural cover, such as trees and shoreline vegetation when available, but as a final touch I spread a sheet of military style cut-leaf camo over my camera gear and down to the ground around my legs and boots. It's a nice set-up because my camera is only a few inches from my face so I can lean my forehead against it and take short naps as I'm waiting for the action to begin.

Here I will share some of my encounters with seven mammals that I've photographed from water's edge. They include the otter, mink, muskrat, beaver, raccoon, coyote, and white-tailed deer. Whether you'd like to photograph some of these critters yourself or simply observe their activities, these anecdotes might increase your chance of success.

The author in his photography hide.

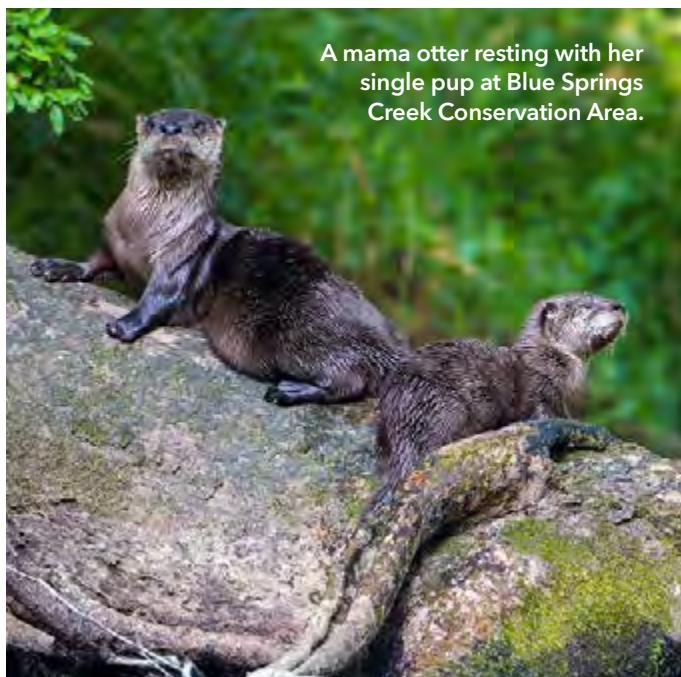
River Otter

River otters are full of energy and always on the move. If you see one at all, it will likely be a fleeting glimpse. I've had my best luck photographing otters along streams near common latrine sites where they leave droppings and scent markings. Latrine sites are easy to find; just inspect gravel bars for scat that is loaded with crayfish parts and fish scales.

One summer, I had a memorable encounter with two otters along the spring branch at Blue Springs Creek Conservation Area (CA). I had set up early, and a little after sunrise a mama otter with a single pup swam toward me from upstream. I photographed them as they hunted minnows in a scour hole near a huge log. Later, they climbed up on the log where the adult lavished her undivided attention on her lone pup as they groomed and rested. My preparation really paid off that morning.

During winter, a great place to find otters is at an opening in the ice on a lake or pond. I like to set up near the ice hole and wait for the otters to come up for air, preferably with a fish. Sometimes they jump up on the ice to roll and play, which is a sight to see. Otters always find time for frolicking, even when hunting.

My most dramatic otter encounter occurred one morning when I was photographing waterfowl from a dike on the Mississippi River in St. Charles County. I was sitting on a rock at the end of the dike, both rubber knee boots in the water to get as close to the action as possible. Suddenly an otter sprang from the river and landed right between my legs onto what apparently was its favorite rock. I don't know who was more surprised, but the otter flipped backwards into the water so fast it took a moment for me to realize what had just happened. I've often quipped that the otter was so close I could smell fish on its breath!



A mama otter resting with her single pup at Blue Springs Creek Conservation Area.

Mink

Mink live near permanent water along streams, lakes, ponds, and wetlands. Unlike otters, mink are all business — no time for goofing around. Most of my sightings have been when they were hunting for food, usually crayfish, but a mink will pursue any prey within reason. I once saw a mink dragging a carp almost twice its size along the bank of the Meramec River. While hiking the wetland trail at Shaw Nature Reserve in Franklin County, I watched a mink dispatch an unfortunate cottontail only a few feet away from me. When the hunt is on, mink appear oblivious to distractions, including photographers.

Several years ago, I encountered a group of young mink that had begun venturing from their den underneath a sycamore along a waterway in St. Louis' Forest Park. They weren't mature enough to be too wary, so I was able to capture some great images as they foraged for crayfish. I'll never forget how one ran right across my boots on its way back to the den with its catch.

Any time I'm near water, I watch for mink. I've even seen them at our tiny farm pond. There's always a chance of seeing a mink if you keep your eyes peeled.



A young, curious mink watches the photographer.

Muskrat

Muskrats are highly nocturnal and quite skittish. If you're lucky enough to spot one during daylight, don't dare move a muscle! Muskrats prefer wetlands, lakes, ponds, and slow-moving streams. I've had my best luck with muskrats in spring as they refresh their dens made from cattails and other vegetation. I've only had one extended session with a muskrat, at August A. Busch Memorial CA. It sat grooming at the edge of a wetland for several minutes in the golden light of morning. I remember thinking how fortunate I was for the opportunity as I was snapping away.

Every other encounter I've had with muskrats has been fleeting, so consider yourself charmed if you ever observe one for more than a few seconds.

A muskrat in golden light at a wetland at August A. Busch Memorial Conservation Area.



A beaver eating bark from a willow branch at first light on Creve Coeur Lake in St. Louis County.



Beaver

The American beaver, a much larger rodent than the muskrat, has been one of my "nemesis species" until recently. Beavers are the most nocturnal of all the mammals I've photographed. I often see them in the pre-dawn darkness, but they usually retreat to their dens long before sunrise.

My luck changed last spring at Creve Coeur Lake in St. Louis County where I had been flushing a beaver in the dark

each morning on the way to my hide. One morning I decided to delay my approach until dawn so I would have enough light for a photograph. As I walked toward my hide, I was delighted to see the beaver, awash in the rosy glow of sunrise, eating bark from a willow stick like corn from a cob. It must have been hungry because it never noticed me as I captured its image from 50 feet away. It finally swam off, none the wiser, after it finished its breakfast.

Raccoon

Raccoons spend much of their time at wetlands, lakes, and streams where they hunt for food, often at dawn. One morning when I was photographing waterfowl at B.K. Leach Memorial CA, a mama raccoon with a large group of kits crossed the wetland near my location. Raccoons have extremely sensitive paws, and I watched as they felt the bottom for crayfish and other invertebrates. I had a similar experience at our small pond in Franklin County, allowing for some up-close images of the hungry raccoons.

Most of my other encounters with raccoons, at least during daylight, have been with young individuals venturing out on their own during late summer. A couple of times I have spotted one in the crook of a tree, napping in the shade. Each time I wondered if the young raccoon was experienced enough to find food on its own.



Coyote

Most people don't think of water when they think of coyotes, but I frequently see them when photographing near water, especially wetlands. Coyotes are opportunistic and they find easy pickings of frogs, snakes, salamanders, crayfish, and other small prey in wetlands.

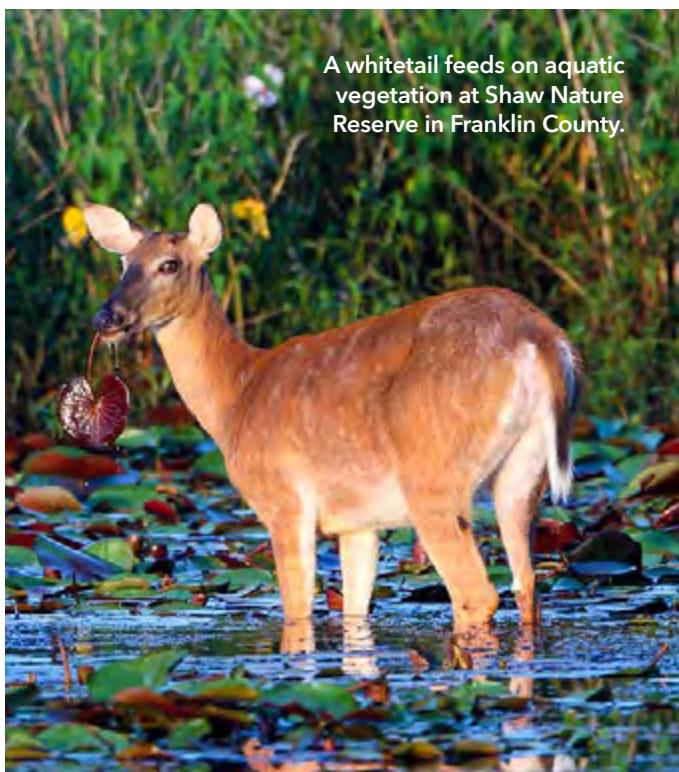
One of my favorite coyote images came from a wetland at Columbia Bottom CA just before sunset. The coyote stepped onto the mudflat from a dense stand of cattails and began searching the shallows for prey. I was in my hide nearby and I made several images of the beautiful coyote, its fur golden-red under the setting sun. What a magical moment!

I often see coyotes hunting along the banks of the Meramec River in St. Louis County. I'm never sure what they are looking for, but I bet they enjoy fish remains left by anglers. One morning I watched a coyote follow a whitetail down to the water from a high bank across the river. The deer continued into the water and swam across to my side. The coyote stood at water's edge and watched as I sniped away from my photo hide. I doubt the coyote was seriously interested in the deer, but the interaction resulted in some nice images.





A whitetail doe crosses the Meramec River with her fawns.



White-Tailed Deer

Many of my best photographs of whitetails have come from my sessions at water's edge, often in the fall when deer are on the move due to the rut. I've photographed several whitetails, including does with fawns, swimming back-and-forth across the Meramec River to get to favored feeding, breeding, and resting locations. Whitetails don't hesitate to swim across rivers, even in freezing temperatures. They learn to cross at such a young age it becomes a natural part of their routine. Whitetails aren't afraid of crossing big water either as I've watched them swim across the Missouri River.

Sometimes in summer when I photograph at the wetland at Shaw Nature Reserve, whitetails show up and forage on lily pads, often in water up to their chests. They not only benefit from rich forage but also obtain respite from the summer heat.

I hope these images and anecdotes inspire you to get out and spend some time at water's edge with your camera or binoculars or both. Remember, you'll likely be rewarded for the extra effort of making an early start. But if you don't see a thing, I promise it will still be time well spent. ▲

Danny Brown is a freelance wildlife photographer and writer. He and his wife, Joyce, live on a small farm in Union, Missouri.

Missouri Master Naturalist Program

A GATEWAY TO DISCOVERING AND HELPING
CONSERVE MISSOURI'S NATURAL RESOURCES

by Jenni Rabenau | photographs by Noppadol Paothong





Through a Master Naturalist core training course, volunteers learn about natural resources and how to educate others.

With an ever-evolving society, one thing remains constant — the need to foster stewardship among Missourians to conserve our natural resources. To meet that need, the statewide Missouri Master Naturalist Program promotes environmental stewardship by combining education and action to restore and preserve ecosystems, empower communities, increase citizen awareness, collect data, and master skills, knowledge, and habits to improve the environment.

Unique Program History

It became clear to MDC and University of Missouri Extension (MU Extension) that a program encompassing skilled volunteers to improve and steward Missouri natural resources was desired.

“We envisioned developing a partnership to create a program in which well-informed and engaged volunteers would be involved in expanding our capabilities of delivering natural resource education and community service throughout the state,” said Bob Pierce, MU Extension fisheries and wildlife specialist and Master Naturalist Program state coordinator.

The program would build a legacy of informed and trained citizens to promote awareness, understanding, and respect of Missouri’s natural ecosystems. The Missouri Master Naturalist Program combines education and volunteer service at the community level and empowers citizens to become more involved in natural resource management and education.

In 2004, the program was piloted in West Plains and Columbia with over 60 participants. Chapters were organized at these locations, and the program eventually became a statewide effort.

“After these successes, the program exploded with interest from numerous MU Extension specialists and MDC staff in other locations across the state,” said Pierce.

Since that time, the program has trained more than 2,700 volunteers, with over 700 of these individuals maintaining their certification and actively participating in 12 chapters throughout the state. As of 2022, Master Naturalists have provided over 800,000 hours of volunteer service.

“Statewide we are small in numbers, but if we can educate enough people to be onboard, then we’ll have that army of people we need to protect the environment for future generations,” said Damon Kempker, Boone’s Lick Chapter.

Left: Volunteers learn to identify plants at Shaw Nature Reserve.



Program Organization

The program is directed by two state coordinators (one from each sponsoring organization) who provide training guidelines and curriculum resources, set statewide program policies, and approve training opportunities. Funding and support for the program are provided by MDC and MU Extension.

Chapters are vital to the Master Naturalist Program. Chapter advisors, representing both MDC and MU Extension, provide the program with critical leadership at the local level by conducting and organizing training, working with chapter volunteers, and providing a communication link to the state coordinators and chapter leaders.

Chapters are self-governed by officers and committee members. Chapters have “many strong leaders who are forward looking in how they structure their group and provide ongoing training for their members,” said Miramiguoa Chapter Advisor Matt Herring.

Monthly chapter meetings are held inside, outdoors, or virtually. The volunteers continually engage members and the public through educational outreach on chapter’s Facebook pages, blogs, news articles, radio spots, and exhibits.

Master Naturalist chapters work in stream beds to identify the living creatures that call them home.



Training continually increases volunteer’s knowledge and skills. Here a volunteer learns to identify a bone from a vole, pulled from an owl pellet.



Initial Training

“You are never too old to learn about nature,” remarked Robert Kipfer, Springfield Plateau Chapter.

Through the various chapters, volunteers begin their journey with a minimum 40-hour initial core training course focused on ecological concepts and important natural resources in the region. The training teaches skills to prepare Master Naturalists for volunteer service. The course includes weekly presentations combined with field experiences led by expert biologists, conservationists, geologists, and others from local, state, and federal agencies and universities.

Field trips offer exceptional opportunities for trainees to generate connections, expand understanding, and sharpen skills.

“Field trips are the most impactful activities,” said Springfield Plateau Chapter Advisor Lyle Whittaker. “It allows members to share and highlight strengths.”

Jesse L. Johnson, Osage Trails Chapter, recalls one memorable trip.

“My all-time favorite program was when I was still a trainee,” Johnson said. “One of our training field trips was spent with MDC staff on boats near the Kansas-Missouri river confluence learning about aquatic species and invasives. It was an eye-opening experience to have invasive carp literally jumping in our boats as we searched for sturgeon.”

Providing training on the chapter level ensures that it focuses on local nature and needs. Ecoregions differ throughout the state, so Master Naturalists become experts in their own backyards and the natural areas that surround their communities.

“You learn the facts from subject matter experts and apply what you learned to offer a solution,” remarked Ken Barrows, Miramiguoa Chapter. “Volunteers acquire knowledge about Missouri’s natural resources and varied physiographic regions through science-based education and end their training with a volunteer community service capstone project.”

Partnerships

“Conservation requires everyone to work together to make a difference,” said Cynthia Naff, Chert Glades Chapter.

The partnership amongst MU Extension, MDC, and over 200 local chapter partners has resulted in a unique master volunteer organization.

Master Naturalist chapter partners provide training and volunteer opportunities, resources, and continuing education with specialized training.

“The program is multifaceted,” said Tracy Bono, Miramigoua Chapter. “It connects partnerships and fosters collaboration amongst the citizens of our state. The best part, for me, has been the personal development opportunities and absolute joy experienced being a part of the spectacular natural beauty of our great state.”

Master Naturalist chapters promote community partner projects for volunteers and provide the necessary training. Jointly, partners can utilize Master Naturalists for work that involves critical thinking in relation to the local, natural world. The skilled volunteers go beyond basic projects to deliver work and content to educate their communities about natural resource conservation.

Certification

“The name might scare you, ‘master’ naturalist,” said Roxanne Stockdall, Hi Lonesome Chapter. “I have realized that I didn’t need to be a master to begin this journey nor did I need to become a master after my initial classes. It’s a process.”

Volunteering is the reason why the program exists. After completion of the initial training, members are required to complete a minimum of 40 service hours annually and a minimum of eight hours of advanced training to become and remain a Certified Master Naturalist. The annual certification requirement “involves you with nature and helps with the environment; a great way to be good stewards for our world and keep it beautiful and healthy,” said Beth Zona, Confluence Chapter.

Certification in the program often leads to volunteers being recognized as environmental leaders in their communities.

“I commonly get asked what I’m doing and why,” said Beth Caruthers, Springfield Plateau Chapter. “It’s fun to talk to people who are truly interested.”

The Master Naturalist Program encourages volunteers to seek lifelong learning opportunities, including learning to identify Missouri’s trees.



Advanced Training

Master Naturalists “are primarily lifelong students that enjoy learning new things every day and sharing that knowledge with others in order to inspire further action in conservation,” said Caruthers. The training courses give volunteers a foundation for further learning and volunteering in various conservation efforts.

More advanced training provides Master Naturalists opportunities to focus their interests on more specific topics that interest them. Annual advanced training promotes continued development and provides the experienced Master Naturalist with tools to work in environments where more skill is needed.

“I appreciate the experience and opportunity to learn many things about the world of nature we all live in,” said Gerry Crawford, Loess Hills Chapter.

Top:Volunteers examine an owl's pellet to uncover what the raptor has been eating.

Bottom: Volunteer studies monarch butterflies.



Lifelong Benefits

Master Naturalist volunteering not only supports and promotes environmental conservation, but it also gives members the opportunity to support climate actions, promoting environmental, economic, and social sustainability.

"After the devastation of the Joplin tornado our chapter was a community leader," said Chert Glades Chapter Advisor Jeff Cantrell. "We advised and assisted on a wide variety of clean-up and rebuilding projects with some type of naturalist theme in focus. We helped rule out nonnative trees being planted in public areas, distributed naturescaping plants and resources, conducted trail work and removed rubbish/waste materials, and lastly became information resources at town planning meetings."



Becoming more educated about the natural world, Master Naturalists enrich their daily lives.

For more information on the Missouri Master Naturalist Program, visit short.mdc.mo.gov/4A4.

What Do Master Naturalists Do?

Most of the chapters have projects with local partners centered around restoration of locally beneficial habitats; invasive plant management, control, and removal; pollinator and native flora and fauna efforts; participatory science projects, including stream conservation; and many focused educational events for youth and the community.

"The times I've spent helping conduct bat exit counts were magical, but the activities that have changed my perspective the most have been efforts to remove invasive plants. I'm much more aware of the problem now, and it has changed how I manage my flower beds at home," said Edith Starbuck, Meramec Hills Chapter.

Seven chapters participate in MDC's Milkweed for Monarchs initiative, helping to expand pollinator habitat by installing milkweed plants and maintaining habitat gardens.

Thirty-five members volunteered to assist with MDC's chronic wasting disease mandatory sampling in November. Volunteers ran routes in nine counties to assist with MDC's Resource Science furbearers survey, which provides population trend information for Missouri's furbearer species. Data has been collected for over 40 years.

Chapters are heavily involved in participatory science projects, including MDC's Eagle Watch Program, Audubon's Christmas Bird Count, water quality monitoring, and the Great Backyard Bird Count. Several members have completed the Missouri Chapter of the International Dark Sky Association training. This training equips Master Naturalists to work with local community and business leaders to reduce the harmful effects of night light pollution.

Volunteer Service: Isn't All Work

While Master Naturalists' stewardship is an important part of land management for conservation and recreation throughout Missouri, the volunteers enjoy many adventures, friendships, unique experiences, and fun.

Stewardship typically takes volunteers outside, gets them sweaty, and shows tangible effects of their dedicated work.

"I never give up," said Karen Leslie, Miramiguoa Chapter. "I fell on my behind one time trying to hack a bush honeysuckle. I worked on that bush until I had every piece of root out of the ground. It was so rewarding."

Partnering with community members and local organizations to clean up litter not only protects wildlife, but it also raises public awareness and is a step in creating sustainable natural communities.

Master Naturalists not only love nature, they are trained with specialized knowledge of Missouri's geology, ecology, habitats, and species, as well as the impacts of humans on the landscape, including how to restore, manage, and preserve our natural environments.

Through continued outreach, Master Naturalists educate and nurture a generation of young minds to continue the conservation mission and make conscious choices in conservation.

"The Missouri Master Naturalist Program is an excellent program to learn about the flora and fauna of Missouri, as well as how to be a good steward of our land and water," said Leslie Bearden, Meramec Hills Chapter. "It not only brings awareness, but also gives you the tools and opportunities to make a difference in how the environment will be left for future generations." ▲

Jenni Rabenau served as MDC's state coordinator for the Missouri Master Naturalist Program in FY23. She is passionate about promoting the program and helping volunteers succeed. Outside of work, Jenni can be found managing the family ranch and being in the good ol' outdoors!



Above and below: Missouri Master Naturalists play an important role in their communities, providing natural resource stewardship.



Get Outside

in JULY → **Ways to connect with nature**



SOUTHEAST REGION

Insects: Firefly Fun

Friday • July 7 • 6-9 p.m.

Cape Girardeau Conservation Nature Center

2289 County Park Drive, Cape Girardeau, MO 63701

Registration is not required. For more information, call 573-290-5218 or visit short.mdc.mo.gov/4AQ.

All ages.

During warm summer nights, nature provides us with one of the most spectacular fireworks displays. The creator of this lightshow is the tiny firefly. Bring the whole family out for fun firefly activities, crafts, and presentations as we learn all about these amazing insects.

Natural Fireworks

Throughout July, flowers burst open, especially on prairies and other sunny habitats, and look like fireworks, just in time for Independence Day. Just a few to look out for include black-eyed Susans, purple coneflowers, sunflowers, blazing stars, and so much more. For a guide to Missouri's wildflowers, visit short.mdc.mo.gov/Zri. With the explosion of blooming wildflowers in open, sunny places, a huge variety of pollinators – bees, wasps, flies, beetles, and butterflies – are visiting them as well.



Natural Events to See This Month

Here's what's going on in the natural world.



Freshwater jellyfish swim in warm waters.



Male fathead minnows stay with eggs.



Northern bobwhites call.

SOUTHEAST REGION

Discover Nature: Nature Center Game Night

Thursday • July 13 • 6:30–9:30 p.m.

Cape Girardeau Conservation Nature Center
2289 County Park Drive, Cape Girardeau, MO 63701

Registration is not required. For more information, call 573-290-5218 or visit short.mdc.mo.gov/4AA.

Ages 12 and up.

Come join the board game club for nature lovers! This monthly program will begin with a short program highlighting a different nature-themed board game and how it relates to Missouri's mission to have world class fish, forests, and wildlife. After the intro ... let the games begin! There will be games available for all experience levels, though on average, these games have a higher complexity level than family board game players may be used to. These games are most appropriate for ages 12 and up. Bring any snacks and non-alcoholic beverages you wish, as well as nature-themed board games to share from your collection.

Blackberries Abound

Cobblers, and jellies, and jams ... oh my! It's blackberry season in Missouri. It's cute to say, "blackberries are red when they're green," but it's true. They are red until they ripen to a deep black, which occurs through August. Pick enough for your favorite recipes but be sure and leave some for wildlife, especially the birds. They help to spread the seeds from blackberries, so bushes can continue to germinate in new locations. For more information, visit short.mdc.mo.gov/4Sq.



Blackberry cobbler



Pickerel frogs retreat to caves, escaping the heat.

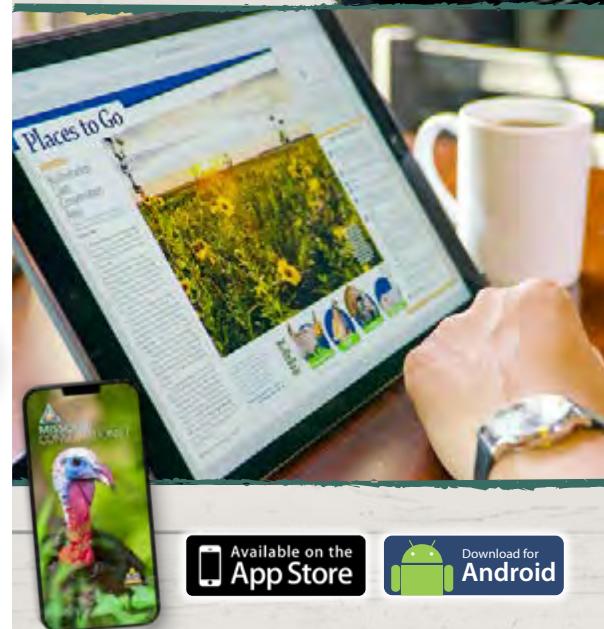


Passion flowers bloom.



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Available on the **App Store** Download for **Android**

Places to Go

NORTHEAST REGION

Locust Creek Conservation Area

A variety of habitats, wildlife, and blooms

by Larry Archer

● Located on more than 3,700 acres in north-central Missouri, Locust Creek Conservation Area (CA) has something to offer nearly anyone seeking some summer relief in nature.

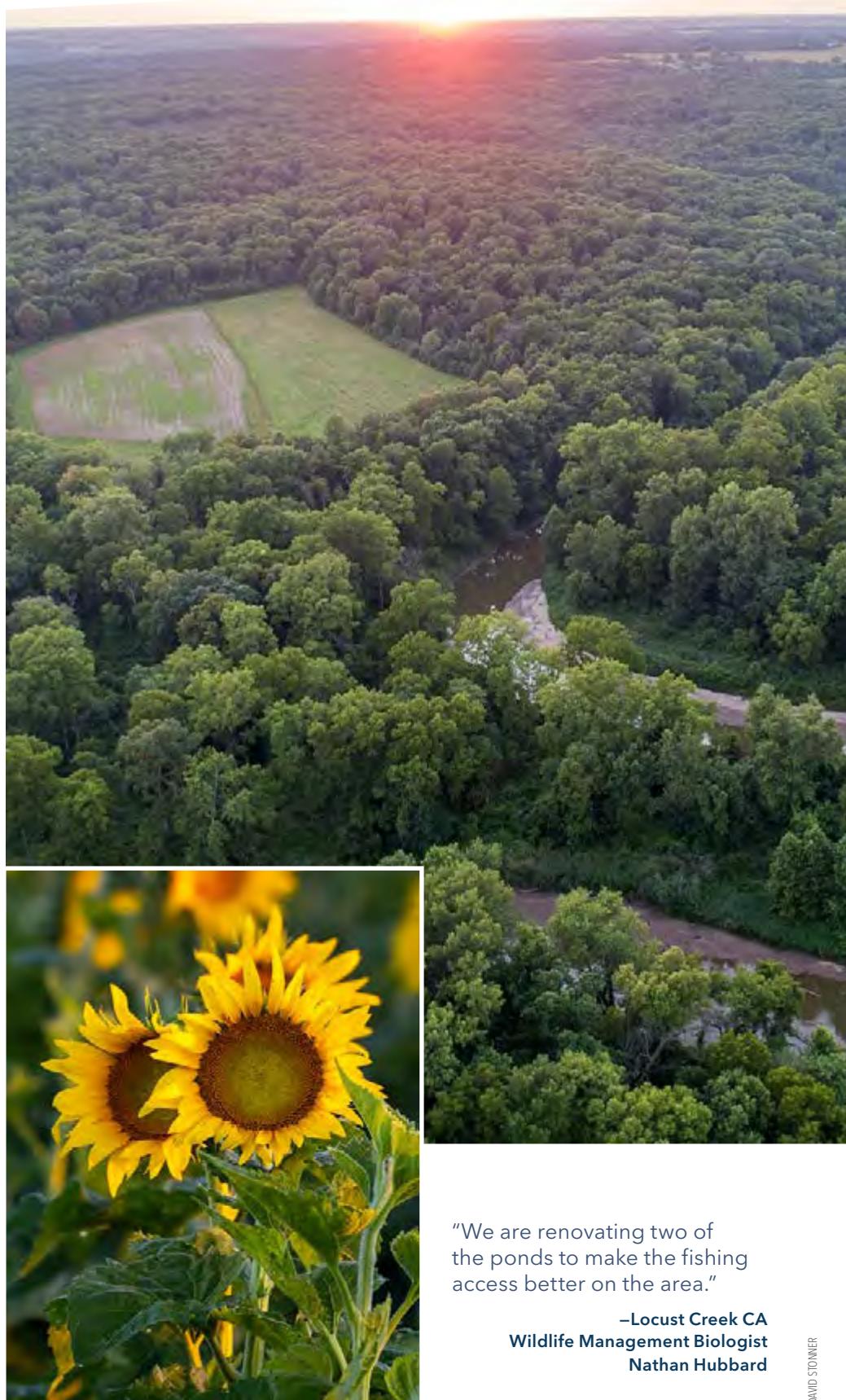
"To me, Locust Creek is one of our more diverse areas that we have in the region," said Wildlife Management Biologist Nathan Hubbard. "You're going to have a really good woodland aspect, your tall-grass prairie aspect, and then we also have agriculture on the area."

The variety of habitats leads to a variety of birds for watching, and the time of year leads to peak wild-flower blooming. For anglers wanting to cast a line, Locust Creek CA has that covered, too.

"Locust Creek runs through it, so we have those fishing opportunities on Locust Creek," he said.

In addition to nearly 6 miles of Locust Creek frontage, the area has five fishing ponds and seven fishless ponds maintained to provide amphibian and reptile habitats. Small wetland units provide habitat for fall and spring migrating waterfowl and year-round habitat for resident wetland wildlife. The area's trail network makes getting from one point to another easier, he said.

"There are gravel roads that run through most of the area," he said. "And our fire lanes are continually mowed, so there's very good trails."



"We are renovating two of the ponds to make the fishing access better on the area."

—Locust Creek CA
Wildlife Management Biologist
Nathan Hubbard



LOCUST CREEK CONSERVATION AREA

consists of 3,717.2 acres in Sullivan County. For the western portions, from Milan, take Highway 5/6 south 0.1 mile, then take River Road west 2.5 miles. For the eastern portions, from Milan, take Highway 5/6 south 1.2 miles, then take Ribbon Road west 1.25 miles.

40.1834, -93.1705

short.mdc.mo.gov/4Az 660-785-2420

WHAT TO DO WHEN YOU VISIT



Bicycling 23.7 miles of service roads open to bicycling year-round.



Birdwatching The eBird list of birds recorded at Locust Creek CA is available at short.mdc.mo.gov/4AD.



Camping Designated camping sites. Open camping (walk-in, float-in, backpack) allowed except during deer and turkey seasons.



Fishing Black bass, catfish, sunfish.



Hunting Deer and **turkey**
Regulations are subject to annual changes. Refer to MDC's regulation page online at short.mdc.mo.gov/Zjw.

Also **dove**, **quail**, **rabbit**, and **squirrel**



Waterfowl Hunting Open hunting.

WHAT TO LOOK FOR WHEN YOU VISIT



Belted kingfisher



American bullfrog



White-tailed deer



Blue grosbeak

Wild Guide



Grass Spiders

Agelenopsis spp.

Status	Size	Distribution
Common	Females: 1/2 to 3/4 inch; males: slightly smaller	Statewide

The unique web of grass spiders is more often noticed than the spider itself. The web is sheetlike, usually positioned horizontally, with a funnel leading downward to a shelter – a rock crevice or dense vegetation. Though it is often smaller, the sheet may be up to 3 feet wide and the funnel portion over a foot long. The web of grass spiders is not sticky, and it can be amusing to tap gently with a twig on the surface of the web, prompting the spider to rush out of her tunnel. She quickly realizes she's been duped and dashes back into hiding.



Did You Know?
Grass spiders prey on numerous insects that are pests to humans, controlling populations of the species they consume.



LIFE CYCLE

Grass spiders hatch from eggs in spring and spend the growing season eating, maturing, mating, and laying eggs. Females continue creating egg cases as long as the weather holds out. As temperatures cool in fall, their metabolism slows, and they generally die when it freezes. Egg cases overwinter, and spiderlings hatch in spring.



FOODS

Grass spiders dart quickly from their funnel and must decide whether a vibration on their web is a food item, a fallen leaf, or something dangerous and retreat. Beetles, moths, and small butterflies are frequently on the menu.

Outdoor Calendar

MISSOURI DEPARTMENT OF CONSERVATION



FISHING

Black Bass

Impounded waters and non-Ozark streams:
Open all year

Most streams south of the Missouri River:
▶ Catch-and-Keep:
May 27, 2023–Feb. 29, 2024

Bullfrogs, Green Frogs

June 30 at sunset–Oct. 31, 2023

Nongame Fish Gigging

Impounded Waters, sunrise to sunset:
Feb. 16–Sept. 14, 2023

Streams and Impounded Waters,
sunrise to midnight:
Sept. 15, 2023–Feb. 15, 2024

Paddlefish

On the Mississippi River:
Sept. 15–Dec. 15, 2023

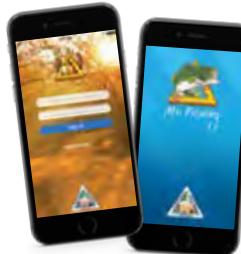
Trout Parks

State trout parks are open seven days a week
March 1 through Oct. 31.

Catch-and-Keep:
March 1–Oct. 31, 2023

*Only hunters selected through a random drawing
may participate in these hunting seasons.

For complete information about seasons, limits,
methods, and restrictions, consult the *Wildlife
Code of Missouri* at short.mdc.mo.gov/Zib.
Current hunting, trapping, and fishing regulation
booklets are available from local permit vendors
or online at short.mdc.mo.gov/ZZf.



Free MO Hunting and MO Fishing Apps

MO Hunting makes it easy to buy permits,
electronically notch them, and Telecheck your
harvest. MO Fishing lets you buy permits, find great
places to fish, and ID your catch. Get both in Android
or iPhone platforms at short.mdc.mo.gov/Zi2.

HUNTING

Black Bear*

Oct. 16–25, 2023

Bullfrogs, Green Frogs

June 30 at sunset–Oct. 31, 2023

Coyote

Restrictions apply during April, spring turkey
season, and firearms deer season.

Open all year

Crow

Nov. 1, 2023–March 3, 2024

Deer

Archery:

Sept. 15–Nov. 10, 2023
Nov. 22, 2023–Jan. 15, 2024

Firearms:

- ▶ **New!** Early Antlerless Portion
(open areas only): Oct. 6–8, 2023
- ▶ Early Youth Portion (ages 6–15):
Oct. 28–29, 2023
- ▶ November Portion:
Nov. 11–21, 2023
- ▶ **New!** CWD Portion (open areas
only): Nov. 22–26, 2023
- ▶ Late Youth Portion (ages 6–15):
Nov. 24–26, 2023
- ▶ Late Antlerless Portion (open areas only):
Dec. 2–10, 2023
- ▶ Alternative Methods Portion:
Dec. 23, 2023–Jan. 2, 2024

Dove

Sept. 1–Nov. 29, 2023

Elk*

Archery:

Oct. 21–29, 2023

Firearms:

Dec. 9–17, 2023

Groundhog (Woodchuck)

May 8–Dec. 15, 2023

Pheasant

Youth (ages 6–15):
Oct. 28–29, 2023

Regular:

Nov. 1, 2023–Jan. 15, 2024

Quail

Youth (ages 6–15):
Oct. 28–29, 2023

Regular:

Nov. 1, 2023–Jan. 15, 2024

Rabbit

Oct. 1, 2023–Feb. 15, 2024

Sora, Virginia Rails

Sept. 1–Nov. 9, 2023

Squirrel

May 27, 2023–Feb. 15, 2024

Teal

Sept. 9–24, 2023

Turkey

Archery:
Sept. 15–Nov. 10, 2023
Nov. 22, 2023–Jan. 15, 2024

Firearms:

- ▶ Fall: Oct. 1–31, 2023

Waterfowl

See the Migratory Bird and Waterfowl
Hunting Digest or visit short.mdc.mo.gov/ZZx
for more information.

Wilson's (Common) Snipe

Sept. 1–Dec. 16, 2023

Woodcock

Oct. 15–Nov. 28, 2023



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There is nothing that will give you more joy – and relief – on a hot July day than a body of water at the end of a trail. May all your outdoor summer adventures lead to cool waters. Get out there! What will you discover?

by **David Stonner**

Free to Missouri households

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